AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A communication system for use with a packet-based network comprising:

a first node configured to transmit data in data packets across the network; and

a second node configured to receive the data packets from the network and serialize the data;

wherein the second node ~~comprises~~ includes a buffer, said buffer ~~is~~ being configurable to adjust to network packet delay variance through analysis of a packet delay variance measurement, as measured over at least one period of time, and

wherein the packet delay variance measurement includes monitoring, for the at least one period of time, a buffer depth of the buffer, the buffer depth being a temporal measurement of a delay that a data packet encounters from when the data packet is received by the buffer to when the data packet is serialized.

Claim 2 (cancelled)

3. (Currently Amended) The communication system of claim 1, wherein the ~~said~~ buffer ~~having~~ has configurable parameter settings ~~for adjusting~~ to adjust the buffer in accordance with the packet delay variance analysis.

4. (Currently Amended) The communication system of claim 3, wherein the configurable parameter settings ~~comprising:~~ include a ~~*buff set*~~ first parameter ~~for determining~~ to determine a period of time for data to be accumulated ~~into~~ in the buffer before being serialized.

5. (Currently Amended) The communication system of claim 3, wherein the configurable parameter settings ~~comprising~~include:

a ~~*buff max*~~ second parameter ~~for setting~~ to set an upper bound ~~on~~ for comparison with an average buffer depth, the average buffer depth being determined by averaging instantaneous measurements of the buffer depth over a determined period of time; and

a ~~*buff min*~~ third parameter ~~for setting~~ to set a lower bound ~~on~~ for comparison with the average buffer depth.

6. (Currently Amended) The communication system of claim 5,

wherein, if the average buffer depth is within a first proximity threshold of the ~~*buff_max*~~ second parameter setting, the second node increases the ~~*buff_max*~~ second parameter setting; and[[,]]

wherein, if the average buffer depth is outside a second proximity threshold of the ~~*buff_max*~~ second parameter setting, the second node decreases the ~~*buff_max*~~ second parameter setting.

7. (Currently Amended) The communication system of claim 5,

wherein the second node uses a clock signal ~~for serializing~~ to serialize the data packets received by the buffer; and[[,]]

wherein, if the average buffer depth is within a first proximity threshold of the ~~*buff_min*~~ third parameter setting, ~~the~~ a clock signal frequency is decreased; and[[,]]

wherein, if the average buffer depth is outside a second proximity threshold of the ~~*buff_min*~~ third parameter setting, the clock signal frequency is increased.

8. (Currently Amended) The communication system of claim 1,

wherein ~~said~~ the first node ~~comprising~~ includes a transmitting clock,

~~said~~ wherein the second node ~~comprising~~ further includes a receiving clock, and

wherein ~~said~~ the transmitting clock and ~~said~~ the receiving clock are synchronized under nominal operating conditions.

9. (Currently Amended) The communication system of claim 1, wherein ~~said~~ the second node ~~additionally comprises~~ further includes a serializer.

10. (Currently Amended) A method of managing a buffer in a node of a packet-based network, wherein said buffer has configurable ~~*buff set, buff max* and *buff min*~~ parameters, including a first parameter, a second parameter, and a third parameter, and said node uses a clock, said method comprising:

(a) setting initial values for the first, second, and third ~~*buff set, buff max and buff min*~~ parameters;

(b) measuring buffer depth over a period of time;

(c) re-centering ~~the~~ said buffer if an underflow event

or an overflow event is detected; and

(d) adjusting ~~*buff_set, buff_max and buff_min*~~ the first, second, and third parameters and ~~the~~ said clock according to the measured buffer depth.

11. (Currently Amended) The method of claim 10, wherein step (b) ~~comprises~~ further includes monitoring ~~the~~ said buffer for the period of time to acquire instantaneous buffer depth measurements.

12. (Currently Amended) The method of claim 10, wherein an occurrence of the underflow event is detected in step (c) by comparing buffer depth with the ~~*buff_min*~~ third parameter.

13. (Currently Amended) The method of claim 12, wherein ~~an~~ the occurrence of the underflow event is detected if the buffer depth exceeds the ~~*buff_min*~~ third parameter.

14. (Currently Amended) The method of claim 10, wherein an occurrence of the overflow event is detected in step (c) by comparing buffer depth with the ~~*buff_max*~~ second parameter.

15. (Currently Amended) The method of claim 14, wherein ~~an~~ the occurrence of the overflow event is detected if the buffer depth exceeds the ~~*buff max*~~ second parameter.

16. (Currently Amended) The method of claim 10, wherein re-centering in step (c) comprises discarding ~~any~~ all data packets in ~~the~~ said buffer.

17. (Currently Amended) The method of claim 10, further comprising, if one of an occurrence of the underflow event ~~or~~ and an occurrence of the overflow event is detected in step (c), ~~the step of~~ increasing ~~an~~ a corresponding one of an overflow event count ~~or~~ and an underflow event count, and comparing the corresponding ~~overflow event count or the underflow~~ event count to a threshold to determine if a gross adjustment is to be made to ~~*buff set*~~ the first parameter.

18. (Currently Amended) The method of claim 10, wherein step (d) ~~comprises~~ further includes:

increasing ~~*buff max*~~ the second parameter if the measured buffer depth is within a predetermined inner proximity to ~~buff max~~ the second parameter;

decreasing ~~*buff max*~~ the second parameter if the measured buffer depth is outside a predetermined outer proximity to ~~*buff max*~~ the second parameter;

decreasing ~~the~~ a clock speed if the measured buffer depth is within a predetermined inner proximity to ~~buff min~~ the third parameter; and

increasing the clock speed if the measured buffer depth is outside a predetermined outer proximity to ~~*buff min*~~ the third parameter.

19. (Currently Amended) The method of claim 10, wherein step (a) ~~comprises~~ further includes:

(i) setting ~~buffer~~ the first, second, and third parameters ~~*buff min, buff max and buff set*~~ to pre-processing values;

(ii) receiving data packets ~~by the~~ at said node for a predetermined amount of time;

(iii) determining if data loss during the predetermined amount of time, with the first, second, and third parameters set at pre-processing values, is within an acceptable limit;

(iv) if the data loss is not within the acceptable limit, then adjusting ~~*buff min, buff max and buff set*~~ the first, second, and third parameters accordingly, and repeating steps (ii) and (iii) until data loss is within the acceptable limit; and

(v) setting the adjusted values for the ~~*buff set, buff max and buff min*~~ first, second, and third parameters ~~to~~ as the ~~adjusted~~ pre-processing values.

20. (Currently Amended) A method of managing a buffer in a node of a packet-based network, wherein said buffer is configurable, and said node is adapted to receive synchronous circuit data in data packets, said method comprising:

(a) setting initial values for buffer configuration;

(b) receiving data ~~by the~~at said node for a predetermined period of time, and detecting data loss during the predetermined period of time;

(c) if the detected data loss is not acceptable, adjusting the buffer configuration and repeating step (b) until measured data loss is acceptable;

(d) receiving further data ~~by the~~ at said node; and

(e) periodically measuring buffer depth, and adjusting the buffer configuration based ~~upon~~ on results of said periodic buffer depth measurements.

21. (Currently Amended) The method of claim 20, wherein the buffer configuration is adjusted through configurable

parameters, including a first parameter, a second parameter, and a third parameter. ~~*buff set, buff min, and buff max.*~~

22. (Currently Amended) The method of claim 20, wherein ~~said~~ the node uses a clock, and ~~said~~ the buffer configuration is adjusted by adjusting a speed of the clock.